

数学与系统科学研究院

计算数学所学术报告

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报告题目:

**Size Estimation of People at High
Risk for HIV Infections**

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下午 16:30-17:30

报告地点: **科技综合楼三层**

311 报告厅

Abstract:

Ending the HIV/AIDS epidemic is a goal born from over 30 years of devastation, struggle, and loss, and contains within it hope and promise for those affected. Great progress has been made, including a 38% decline in new infections since 2001, a 58% drop of new infections in children since 2002, and a 35% fall in AIDS-related deaths since 2005. However, this progress does not include many populations and areas. Key populations – such as sex workers, people who inject drugs, transgender people, prisoners, gay men, and other men who have sex with men – remain at much higher risk of HIV infection. To reach the visionary goal of ending the AIDS epidemic by 2030, policies and interventions require more accurate estimates of the epidemic in both the general population and key at-risk populations, at global and local scale. Size estimation of key population is often a difficult task because they are hard to reach and often hidden, so standard survey and census methods are inadequate. As a result, it is often necessary to leverage multiple data sources, each of which may by itself provide limited information. In addition, expert knowledge about the size of the populations can be useful, even if it is not very precise. We develop a Bayesian hierarchical model for estimating the sizes of local and national key HIV affected populations. The model incorporates multiple commonly used data sources including mapping data, surveys, interventions, capture-recapture data and estimates or guesstimates from organizations, as well as expert knowledge.

欢迎大家参加！